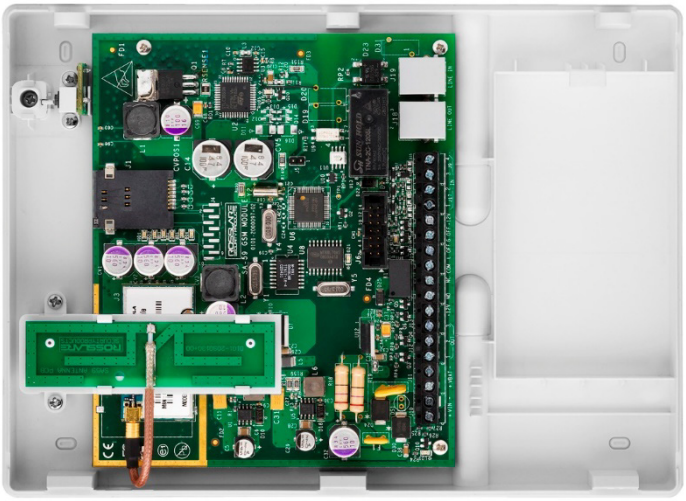
SA-59

GSM Communicator

Installation and User Manual



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SECURITY PRODUCTS

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Table of Contents

1. Introduction 7
1.1 Overview 7
1.2 Main Features 7
2. Technical Specifications 8
3. Installation 9
3.1 General 9
3.1.1 LED Indicators 9
3.1.2 I/O Description 9
3.2 Wiring 10
3.3 Mounting 11
4. Messaging Types 12
4.1 SMS Messaging Types 12
5. Programming 13
5.1 Programming the System 13
5.1.1 Prefix Number Programming 13
5.1.2 Phone Number Programming 14
A. Limited Warranty 15

List of Figures

Figure 1: SA-59 Components 9
Figure 2: Wiring Diagram 10

List of Tables

Table 1: LED Indicators 9
Table 2: I/O Description 9
Table 3: Inputs 11

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This manual's sole purpose is to assist installers and/or users in the safe and efficient installation and usage of the system and/or product described herein.

BEFORE ATTEMPTING TO INSTALL AND/OR USE THE SYSTEM, THE INSTALLER AND THE USER MUST READ THIS MANUAL AND BECOME FAMILIAR WITH ALL SAFETY REQUIREMENTS AND OPERATING PROCEDURES.

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1. Introduction

1.1 Overview

The SA-59 is a universal GSM reporting unit and communicator. When it is connected to an alarm panel, the SA-59 operates as a GSM backup unit to the PSTN line, enabling outgoing calls to be redirected to the GSM network if the PSTN line fails.

Since the SA-59 simulates a telephone line, it makes no difference whether the device to which it is connected is a GSM or a land line.

The built-in SA-59 GSM module connects via the PSTN line to check for phone communication type availability. If there is no PSTN line, the SA-59 automatically switches the call from PSTN line to GSM.

When an event occurs, the alarm system calls the PSTN line to report an alarm. Instructions to arm or disarm, check sensors and other facilities of the system are relayed via system codes or a phone pad and voice menu, depending on the system to which it is connected.

When the SA-59 is connected to a telephone line (Line IN), the SA-59 directs the device to a land line to make a call. If the land line is cut or not functioning, all communications go via the GSM network without the need for any special additional settings.

If the SA-59 is not connected to a land line, all communications take place via the GSM network.

The SA-59 incorporates a SIM interface that conforms to the GSM 11.11 and GSM 11.12 standards, which are based on the ISO/IEC 7816 standard.

These standards define the electrical, signaling, and protocol specifications of a GSM SIM card.

1.2 Main Features

SA-59 uses GSM standard to back up the hardwired telephone line (PSTN) in a case where PSTN line is cut or tampered with on the alarm panel side.

The SA-59 has a battery charger and a space for Rosslare's BT-16, 12 VDC, 2000 mAh NiMH type (Nickel-Metal Hydridea) backup battery.

There are 4 inputs in which a change in the input voltage level changes the corresponding output.

This applies when 0 is connection to ground and 1 is has infinite impedance.

2. Technical Specifications

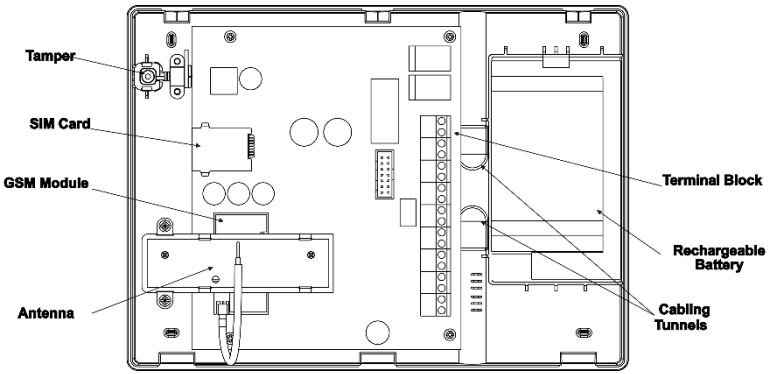
Electronic Specifications	
Voltage	14 V, 2A
Maximum Power Consumption	1.2 A, when power supply is 14 V
Standby Current	0.2 A, when power supply is 14 V
Battery	Option for backup battery of up to 12 VDC, 7 Ah and local charger for the battery
Connector Output	3 open collector outputs of 200 mA
Relay	1 Form-C 1A relay related to Input 1
Telephone Lines	Telephone line-out and telephone line-in
LEDs	5 LED indications
Connections	
PSTN Telephone Line-IN	Connected to the main telephone line in the premises before any other connection
Telephone Line-OUT	Should be connected to the alarm system
Environmental Characteristics	
Operating Temp. Range	0°C to 60°C (32°F to 140°F)
Operating Humidity Range	0 to 95% (non-condensing)
Physical Characteristics	
Dimensions (H x W x D)	162 x 223 x 35 mm (6.4 x 8.8 x 1.4 in.)
Weight	435 g (15.3 oz)

3. Installation

3.1 General

Figure 1 shows the components of SA-59.

Figure 1: SA-59 Components



3.1.1 LED Indicators

Table 1 shows the LED indicators.

Table 1: LED Indicators

LED	Description
LD1	GSM Power ON – Power supply is connected to device
D3	Transmission – Transmission of signal to antenna
D4	Reset – Reset in power up
D1	GSM Power up ready – Power up the device
LD21	Dialing – telephone/device

3.1.2 I/O Description

Table 2 describes the I/O activation.

Table 2: I/O Description

Input Activation	
Input activation triggers the outputs in the following order:	
Input 1	Activate Output 1
Input 2	Activate Output 2
Input 3	Activate Output 3
Input 4	Activate Relay

Outputs are controlled by inputs, so that when the input is set to 0 (grounded), the output is activated.

When the input is set to 1 (not connected), the output returns to its steady state.

3.2 Wiring

Figure 2 shows the main components on the SA-59 board, including terminal blocks and LED indicators.

Figure 2: Wiring Diagram

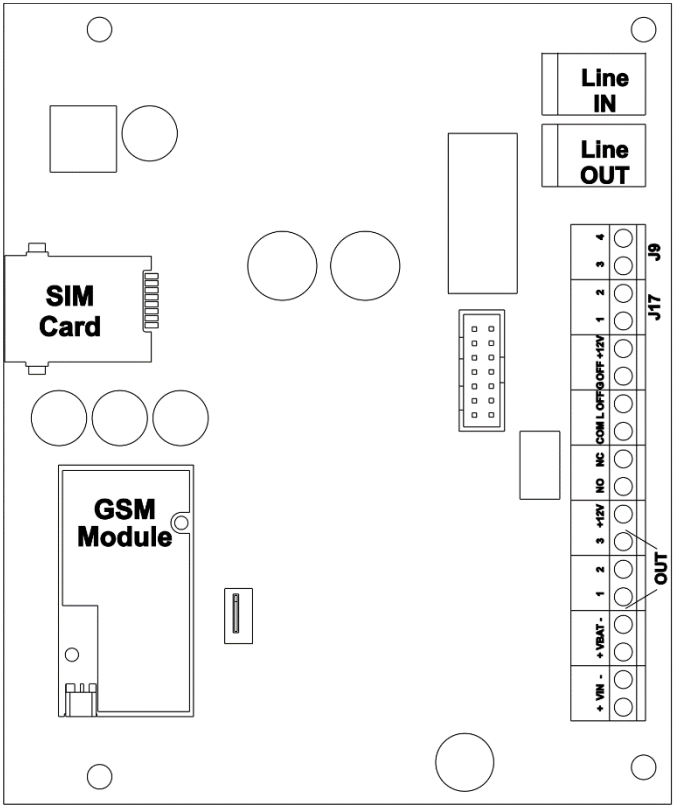


Table 3 lists the various inputs.

Table 3: Inputs

Input	Description
V IN +	Input power PLUS connection
V IN -	Input power MINUS connection
BAT +	Battery PLUS
BAT -	Battery MINUS
OUT 1	Open collector Out 1
OUT 2	Open collector Out 2
OUT 3	Open collector Out 3
+12V	12 VDC, 100 mA, output
NO	Normally Open connection of relay
NC	Normally Close connection of relay
COM	Common connection of relay
L Off	Open collector line OFF output
G Off	Open collector GSM module off output
+12V	12 VDC, 100 mA, output
Input 1	Logical input 1, tamper input
Input 2	Logical input 2
Input 3	Logical input 3
Input 4	Logical input 4
Line OUT	Telephone Line OUT (from system to telephone device)
Line IN	Telephone Line IN (from the entrance point to the system)

To wire the SA-59:

1. Connect Line IN to the phone line and Line OUT to the alarm sytem.
2. It is suggested to connect the tamper to the Input 1 and Output 1 to the alarm system to receive an indication of tampering with the unit's enclosure.

3.3 Mounting

The SA-59 mounts on a wall using the unit's casing.

To mount the casing:

1. Make 4 holes for the casing and attach to the wall.
2. Thread cables along the back cover into the panel via holes provided.
3. Add the battery and then wire the battery to BAT +/-.
4. Close box by clipping the three clips at the top and pushing down and tightening the 3 screws at the bottom side.

4. Messaging Types

There are a number of recognizable SMS message types which the system sends to preprogrammed phone numbers. The system memory holds 4 telephone numbers enabling messaging and notification to relevant parties when the Alarm System is violated. All SMS's are controlled by changing the 4th input in the SA-59.

4.1 SMS Messaging Types

Input	Sent Message
Input 1 high:	"SYSTEM TROUBLE"
Input 1 low:	"SYSTEM TROUBLE RESTORE"
Input 2 high:	"PANIC ALARM"
Input 2 low:	"PANIC RESTORE"
Input 3 high:	"SYSTEM ARMED"
Input 3 low:	"SYSTEM DISARMED"
Input 4 high:	"SYSTEM ALARM"

When system indicates "SYSTEM TROUBLE", the input has switched from 0 V (connected to ground) to a non-connected state (tri-state or high impedance).

When system indicates "SYSTEM TROUBLE RESTORE", the input has switched from a non-connected state to 0 V (connected to ground).

5. Programming

5.1 Programming the System

Prior to programming, make sure a telephone is connected but do not connect the unit to a PSTN line.

To prepare the unit for programming:

1. Connect the telephone to "Line OUT".
2. Wait for a dial tone.
3. Ensure that the SA-59 is not connected to PSTN lines.

The default installer code is 5555.

5.1.1 Prefix Number Programming

When using the GSM network, the addition of a prefix number may be needed. The prefix number is user programmable.

To program the prefix number:

1. Press **5555** to enter Program mode.
2. Press **1**.
3. Type the prefix number.
4. Press **#** to confirm.

   The unit beeps.

Example: For prefix number 9, press: **5555 1 9 #**

To delete the prefix number:

1. Press **5555** to enter Program mode.
2. Press **1**.
3. Press **#** to confirm.

   The unit beeps.

Example: Press: **5555 1 #**

5.1.2 Phone Number Programming

Up to three numbers can be programmed into the SA-59 unit, to which the system sends an SMS message in the event of an event or alarm.

To program the first phone number:

1. Press **5555** to enter Program mode.
2. Press **2**.
3. Type the phone number.
4. Press **#** to confirm.
   The unit beeps.

Example: For number 052646666, press: **5555 2 052646666 #**

To program additional phone numbers:

1. Press **5555** to enter Program mode.
2. Press **3**.

For the third phone number Press **4** instead of **3**.

3. Type the prefix number.
4. Press **#** to confirm.
   The unit beeps.

Example: For the number 052525222, press: **5555 3 052525222 #**

To delete phone numbers:

1. Press **5555** to enter Program mode.
2. Press **2**.

To delete the next number, press the next consecutive number.

3. Press **#** to confirm.
   The unit beeps.

Example: Press: **5555 2 #**

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The full ROSSLARE Limited Warranty Statement is available in the Quick Links section on the ROSSLARE website at www.rosslaresecurity.com.

Rosslare considers any use of this product as agreement to the Warranty Terms even if you do not review them.

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